

REMARKS

Claim 17 has been amended to specify that the photochromic compounds and kinectic enhancing additives are transferred from a removable imbibition composition comprising the photochromic compounds listed and the specified amount of the kinectic enhancing additive. Claim 17 has also been amended to state that the residual film from the composition is removed. Claim 19 has been canceled. Claims 23, 24, 28, 30 and 31 have been amended to replace either "is" or "is selected from" with "comprises". Claim 31 has also been amended to clarify the listing of host materials, based on the disclosure on page 26, lines 1-28. Claims 32 to 37 have been withdrawn.

Applicants affirm the election of the invention of Group I, claims 17-31, made during a telephone conversation with the Examiner on February 21, 2006, Applicants' Agent made a provisional election with traverse to prosecute the invention of Group I and the following species: a) naphthopyran; b) polycaprolactone diol and polyethylene glycol diglycidyl ether; c) poly(urea-urethane); d) the presence of hydroxypropylcellulose; and e) the presence of a hindered amine ultraviolet light absorber, a polyphenol antioxidant and a silica rheology control agent.

Rejection under §112

Claims 23, 24 and 31 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite.

The Examiner asserts that the species are not properly denoted within the proper Markush language of "selected from the group consisting of" and the use of the word "and" instead of "or".

The terminology of claims 23, 24 and 31 has been modified to indicate in claim 23 that the polyol comprises the listed materials or a mixture thereof; in claim 24 that the kinectic enhancing additive comprises the listed materials or a mixture thereof; and in claim 31 that the polymeric host material comprises the listed polymers; homopolymers and copolymers of the listed monomers; and mixtures thereof as described in the specification on page 26, lines 1-28.

Applicants submit that the claims have been clarified in response to the Examiner's constructive suggestions and that the rejection should be withdrawn.

Rejection under §102

Claims 17-20, 22-27 and 29-31 were rejected under 35 U. S. C. §102(b) as being anticipated by Mueller (U.S. Patent 3,707,347).

The Examiner states that Mueller discloses the application of an organic colorant which "diffuses into the molecular structure of a decorable plastic material" such as polycarbonate or polystyrene comprising an oxazine dye, a diglycidyl ether of bisphenol A as a carrier and the elected species of silica rheology control agent. The "residual material remaining above the plastic surface is removed, thus leaving a marking on the article which is entirely disposed beneath the surface as required in claim 19 (now included in amended claim 17).

Claim 17 has been amended to include a list of photochromic compounds that does not include oxazine compounds. Since Mueller does not disclose the use of photochromic compounds selected from the group consisting of naphthopyrans, benzopyrans, indenonaphthopyrans, quinopyrans, phenanthropyrans, metal dithizonates, fulgides, fulgimides and mixtures thereof, it does not anticipate Applicants' invention. Reconsideration and withdrawal of this rejection is respectfully requested.

First Rejection under §103

Claims 17-20, 22-27 and 29-31 were rejected under 35 U. S. C. §103(a) as being unpatentable over Walters et al. (U.S. Patent 6,268,055), Stewart et al. (U.S. Patent 6,432,544) and Japanese Patent No. 60-107030 in view of Mueller (U.S. Patent 3,707,347).

The Examiner asserts that each of Walters et al, Stewart et al and the Japanese patent disclose a coating composition containing components that are disclosed for use in Applicants' claimed invention. The Examiner concedes that these patents are silent in regards to the transferring of the formulation into the polymeric host and removal of residual carrier from the surface and relies on Mueller for these steps. The Examiner asserts that based on the equivalent components of

Walters et al and Stewart et al applied to the lens by the same procedure as exemplified within the specification, the prior art compositions inherently transfer into the polycarbonate or polyol(allyl carbonate). The Examiner further asserts that if the inherency of the internal transfer is challenged, it would have been obvious to coat the lenses of Walters et al, Stewart et al and the Japanese patent via the process of Mueller in order to diffuse the composition into the molecular structure of the polycarbonate to prevent its loss from the surface.

Applicants have amended claim 17 to specify that the composition of the present invention is a removable imbibition composition and that after transferring the photochromic compounds and kinectic enhancing additives into the organic polymeric host that the residual film formed from the composition is removed.

Examination of each of the coating compositions of Walters et al, Stewart et al and the Japanese patent reveals that each coating composition contains a curing agent so that a durable cured photochromic coating and not a removable photochromic imbibition composition is formed. An examination of the disclosure of each of these patents reveals that an article having a cured photochromic coating on a substrate or lens is described. The cured photochromic coating on such articles would not be readily removable as an imbibition coating needs to be.

Both Walters et al. in column 2, lines 40-57 and Stewart et al. in column 2, lines 11-25 describe their respective methods as enabling the preparation of photochromic plastic articles without the need to incorporate the photochromic compound(s) into the plastic substrate which avoids the need to develop special optical resin materials for use with photochromic compounds. Both of the aforementioned disclosures include a statement that the use of photochromic coatings results in more efficient utilization of photochromic compounds by avoiding the losses associated with the more conventional transfer methods, e.g. imbibition or permeation, to produce photochromic articles. This is essentially a teaching away from the methods of Mueller.

The combination of Walters et al, Stewart et al and the Japanese patent in view of Mueller does not make obvious Applicants' invention as now claimed since the coatings of Walters et al, Stewart et al and the Japanese patent are cured on the

surface of the article and intended to remain there as durable photochromic coatings. None of the references has the objective of a removable imbibition coating, therefore their combination could not make the present invention obvious. There is no motivation to use the coatings of Walters et al, Stewart et al and the Japanese patent in the process of Mueller since there would be wastage of photochromic compounds in the transfer and removal of residual material processes and no assurance of a uniform transfer of the photochromic compounds and kinectic enhancing additives into the polymeric material. Reconsideration and withdrawl of this rejection is respectfully requested.

Second Rejection under §103

Claims 17-20 and 22-27 29-31 were rejected under 35 U. S. C. §103(a) as being unpatentable over Takeshita et al. (U.S. Patent 6,057,039), in view of Walters et al. (U.S. Patent 6,268,055).

The Examiner asserts that Takeshita et al discloses a coating composition containing components that are disclosed for use in Applicants' claimed invention. The Examiner concedes that the patent is silent in regards to the claimed photochromic compounds surface and relies on Walters et al. The Examiner also concedes that the patent is silent in regards to the transferring of the formulation into the polymeric host and removal of the residual carrier and relies on Mueller. The Examiner asserts that based on the equivalent components of Takeshita et al applied to the lens by the same procedure as exemplified within the specification, the prior art composition inherently transfers into the polycarbonate or polyol(allyl carbonate). The Examiner further asserts that if the inherency of the internal transfer is challenged, it would have been obvious to coat the lenses of Takeshita et al via the process of Mueller in order to diffuse the composition into the molecular structure of the polycarbonate to prevent its loss from the surface.

The coating composition of Takeshita et al is not an imbibition composition as recited in claim 17 herein. Takeshita et al is directed to coating compositions that are cured and used to form transparent films on the surface of polymeric lenses. As shown in Table 1 of U.S. Patent 6,057,039, the coated articles are resistant to

abrasion, chemicals, warm water and heat and demonstrate durability, dyability and 100% adhesion. Therefore, the coating of Takeshita et al could not be considered removable as recited in claim 17.

Both Walters et al and Mueller were discussed hereinbefore. The combination of Takeshita et al and Walters et al does not make obvious Applicants invention since both are directed to photochromic cured coatings on the surface of articles that are intended to remain there for protection of the polymeric surface from abrasion or to provide a durable photochromic coating.

Applicants' claim 17 specifies that the imbibition composition is temporary and removable. More specifically, Applicants' invention uses a temporary coating for the purpose of transferring the compounds into the subsurface of the polymeric host material. See page 21 lines 25 to 28 of the specification. In the present invention, kinetic enhancing additives in addition to the photochromic compounds are transferred into the substrate. After the transfer process, the coating depleted of photochromic compounds and kinectic enhancing additives is removed. As discussed hereinabove, there is no motivation to use the coatings of Takeshita et al and Walters et al in the process of Mueller since there would be wastage of photochromic compounds in the transfer and removal of residual material processes and no assurance of a uniform transfer of the photochromic compounds and kinectic enhancing additive into the polymeric material. Moreover, as mentioned above, the coatings disclosed in Takeshita et al and Walters et al are cured upon the substrate and, therefore are not removable. Reconsideration and withdrawl of this rejection is respectfully requested.

Third Rejection under §103

Claim 21 was rejected under 35 U. S. C. §103(a) as being unpatentable over Walters et al. (U.S. Patent 6,268,055), Mueller (U.S. Patent 3,707,347), Stewart et al. (U.S. Patent 6,432,544), Japanese Patent No. 60-107030 and Takeshita et al. (U.S. Patent 6,057,039).

All of these references were discussed hereinbefore and the combinations thereof. The references individually or in combination do not make obvious

Applicants' invention as claimed herein for the reasons previously given.

Reconsideration and withdrawal of this rejection is respectfully requested.

Applicants have responded in order to advance the case to allowance.

Reconsideration and withdrawal of all of the rejections are respectfully requested as well as allowance of the claims.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Deborah M. Altman", is written over a horizontal line.

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